Louisiana Department of Environmental Quality (LDEQ)
Office of Environmental Services

STATEMENT OF BASIS

Units 303 – Utilities Unit
Alliance Refinery
ConocoPhillips Company
Belle Chasse, Plaquemines Parish, Louisiana
Agency Interest Number: 2418
Activity Number: PER20080017
Draft Permit No. 2778-V1

I. APPLICANT:

Company:
ConocoPhillips Company
P.O. Box 176, Belle Chasse, LA 70037

Facility:
Alliance Refinery
15551 Hwy 23, Belle Chasse, Plaquemines Parish, Louisiana
Approximate UTM coordinates are 211.51 kilometers East and 3,286.84 kilometers North, Zone 16

II. FACILITY AND CURRENT PERMIT STATUS:

ConocoPhillips Company owns and operates the Alliance Refinery, a petroleum refinery located in Belle Chasse, Louisiana. Gulf Oil Company built the refinery in 1970. BP Oil Company owned Alliance Refinery from 1985 until Tosco Corporation (Tosco) purchased it in September 2000. Tosco later became a wholly owned subsidiary of Phillips Petroleum Company on September 17, 2001. On August 30, 2002, Phillips Petroleum Company, including its subsidiary Tosco Corporation, completed a merger with Conoco Inc. to form ConocoPhillips Company. On January 1, 2003, the owner and operator of the Alliance Refinery formally changed from Tosco to ConocoPhillips Company.

Alliance Refinery produces a wide range of petroleum products from crude oil, such as motor gasoline, jet fuel, diesel fuel, LPG, carbon black feedstock, propane, and coke. It also produces by-product elemental sulfur and petrochemicals such as benzene, toluene, and xylene. The plant is covered by Standard Industrial Classification (SIC) 2911.

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Project description

ConocoPhillips proposes the following changes:

- Add the Temporary Diesel Engine Cap, Emission Point No. 303-CAP1. Alliance Refinery periodically requires temporary diesel engines for routine maintenance and scheduled turnaround events. Currently, Alliance Refinery requests approval for the use of these temporary diesel engines through variances, which means that the diesel engines are existing sources. New Source Review does not apply. The emissions estimates are based on the emissions request in the variances. The type, size, and number of engines used at the refinery will vary depending on operating conditions; therefore, the diesel engine emissions are proposed to be permitted as an emissions cap. This will give the refinery the operational flexibility to rent the size and number of engines as required. As part of the proposed diesel engines emission cap requirements, Alliance Refinery will track total fuel usage.

- Add the Emergency Diesel Engine Cap, Emission Point No. 303-CAP2. Due to the effects of the four major hurricanes that have hit the Louisiana Coast over the last three years (Hurricanes Katrina, Rita, Gustav, and Ike), the Alliance Refinery has experienced flooding that has prevented the refinery from startup immediately following the hurricanes. During an emergency episode in order to prevent flood waters from rising in the refinery, the emergency engines will power pumps to drain the flood waters.

- Add four diesel storage tanks. The emergency diesel engines will run on the diesel stored in the horizontal tanks during an emergency episode in order to prevent flood waters from rising in the refinery.

- Renew the Part 70 Operating Permit.

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Prevention of Significant Deterioration Applicability

A Prevention of Significant Deterioration (PSD) evaluation was performed for the addition of the temporary and emergency diesel engines, which included incremental increases and increases from the addition of the new tanks. ConocoPhillips does not consider the request for the addition of the temporary diesel engines to be a modification since these emissions have historically existed at the facility. However, as a conservative measure, ConocoPhillips evaluated actual emissions from the engines based on a worst-case variance scenario from historical data.

"Actual" to "Potential" emission increases for the modification in tons per year are as follows:

Pollutant	Actual	Potential	Change	PSD De Minimis
PM_{10}	2.52	3.36	+0.84	15
SO_2	16.73	25.78	+9.05	40
NO_X	149.77	147.24	-2.53	40
CO	16.98	18.93	+1.95	100
VOC	4.64	9.75	+5.11	40

An actual to potential analysis of the project showed that no pollutant increased in excess of its significance level listed above. Prevention of Significant Deterioration (PSD) review is not required.

This application was reviewed for compliance with the Part 70 operating permit program. It was also reviewed for compliance with Louisiana Air Quality Regulations, National Emission Standards for Hazardous Air Pollutants (NESHAP), and New Source Performance Standards (NSPS). Prevention of Significant Deterioration (PSD) does not apply.

MACT requirements

Compliance with the Louisiana Fugitive Emission Consolidation Program, with LA Refinery MACT being the most stringent program for Unit 303 - Utilities, is determined as MACT for fugitive emissions.

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V. Periodic Monitoring

Fugitive emissions must be monitored according to the provisions of Louisiana Refinery MACT. Diesel fuel usage for the temporary and emergency diesel engines must also be monitored as required by the cap.

VI. Applicability and Exemptions of Selected Subject Items

Regulatory applicability, standards, monitoring, reporting and recordkeeping requirements are provided in the Facility Specific Requirements Section of the draft permit. The table below summarizes highlights of the regulatory applicability for each emission point.

Source ID No.:	Requirement	Applicability
Facility – Unit 303	40 CFR 61.340 Subpart FF– National Emission Standard for Benzene Waste Operations.	Refinery has > 10 Mg/yr benzene from waste and must meet control, reporting, and recordkeeping requirements. (See Title V Permit, Unit 308W, Wastewater Treatment Unit.)
303-TDE Temporary Diesel Engines 303-EDE Emergency Diesel Engines	LAC 33:III.1311.C – Emission Standards for Particulate Matter	The emission of particulate matter shall be controlled so that the shade or appearance of the emission is not denser than 20% average opacity; except for not more than one six-minute period in any 60 consecutive minutes.
	40 CFR 60 Subpart IIII Standards of Performance for Stationary Compression Ignition Internal Combustion Engines	Comply with all applicable provisions of 40 CFR 60 Subpart IIII.
	40 CFR 63 Subpart ZZZZ National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines.	Comply with all applicable provisions of 40 CFR 63 Subpart ZZZZ.
303-FF Unit Fugitives	LAC 33:III.2111 Control of Emissions of Organic Compounds – Pumps and Compressors	All rotary pumps and compressors handling VOC with TVP >= 1.5 psia to be equipped with mechanical seals or equivalent approved equipment.
	LAC 33:III.5109.A Comprehensive Toxic Air Pollutant Emission Control Program	Control emissions of toxic air pollutants to a degree that constitutes Maximum Achievable Control Technology (MACT) as approved by DEQ. Compliance with the Louisiana Fugitive Emission Consolidation Program, with LA Refinery MACT, being the most stringent program, is determined as MACT.

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VIII. Glossary

Best Available Control Technologies (BACT) - An emissions limitation (including a visible emission standard) based on the maximum degree of reduction for each pollutant subject to regulation under this part which would be emitted from any proposed major stationary source or major modification which the administrative authority, on a case-by-case basis, taking into account energy, environmental, and economic impacts and other costs, determines is achievable for such source or modification through application of production processes or available methods, systems, and techniques, including fuel cleaning or treatment or innovative fuel combustion techniques for control of such pollutant.

CAM - Compliance Assurance Monitoring rule – A federal air regulation under 40 CFR Part 64

Carbon Black - A black colloidal substance consisting wholly or principally of amorphous carbon and used to make pigments and ink.

Carbon Monoxide (CO) – (Carbon monoxide) a colorless, odorless gas produced by incomplete combustion of any carbonaceous (gasoline, natural gas, coal, oil, etc.) material.

Cooling Tower – A cooling system used in industry to cool hot water (by partial evaporation) before reusing it as a coolant.

Continuous Emission Monitoring System (CEMS) – The total combined equipment and systems required to continuously determine air contaminants and diluent gas concentrations and/or mass emission rate of a source effluent.

Cyclone – A control device that uses centrifugal force to separate particulate matter from the carrier gas stream.

Duct Burner – A device that combusts fuel and that is placed in the exhaust duct from another source (such as a stationary gas turbine, internal combustion engine, kiln, etc.) to allow the firing of additional fuel to heat the exhaust gases before the exhaust gases enter a steam generating unit.

Federally Enforceable Specific Condition - A federally enforceable specific condition written to limit the potential to Emit (PTE) of a source that is permanent, quantifiable, and practically enforceable. In order to meet these requirements, the draft permit containing the federally enforceable specific condition must be placed on public notice and include the following conditions:

- A clear statement of the operational limitation or condition which limits the source's potential to emit;

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Part 70 Operating Permit- Also referred to as a Title V permit, required for major sources as defined in 40 CFR 70 and LAC 33:III.507. Major sources include, but are not limited to, sources which have the potential to emit: ≥ 10 tons per year of any toxic air pollutant; ≥ 25 tons of total toxic air pollutants; and ≥ 100 tons per year of regulated pollutants (unless regulated solely under 112(r) of the Clean Air Act) (25 tons per year for sources in non-attainment parishes).

PM_{10}- Particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers as measured by the method in Title 40, Code of Federal Regulations, Part 50, Appendix J.

Potential to Emit (PTE) - The maximum capacity of a stationary source to emit any air pollutant under its physical and operational design.

Prevention of Significant Deterioration (PSD) – A New Source Review permitting program for major sources in geographic areas that meet the National Ambient Air Quality Standards (NAAQS) at 40 CFR Part 50. PSD requirements are designed to ensure that the air quality in attainment areas will not degrade.

Selective Catlaytic Reduction (SCR) – A noncombustion control technology that destroys NO_X by injecting a reducing agent (e.g., ammonia) into the flue gas that, in the presence of a catalyst (e.g., vanadium, titanium, or zeolite), converts NO_X into molecular nitrogen and water.

Sulfur Dioxide (SO_2) – An oxide of sulfur.

TAP - Toxic Air Pollutant (LDEQ acronym for air pollutants regulated under LAC 33 Part III, Chapter 51, Tables 1 through 3).

Title V permit – See Part 70 Operating Permit.

"Top Down" approach – An approach which requires use of the most stringent control technology found to be technically feasible and appropriate based on environmental, energy, economic, and cost impacts.

Turbine – A rotary engine in which the kinetic energy of a moving fluid is converted into mechanical energy by causing a bladed rotor to rotate.

Volatile Organic Compound (VOC) - Any organic compound which participates in atmospheric photochemical reactions; that is, any organic compound other than those which the administrator of the U.S. Environmental Protection Agency designates as having negligible photochemical reactivity.